CPC COOPERATIVE PATENT CLASSIFICATION

C07J STEROIDS (seco-steroids C07C)

NOTE

This subclass covers compounds containing a cyclopenta[a]hydrophenanthrene skeleton or a ring structure derived therefrom:

- by contraction or expansion of one ring by one or two atoms;
- by contraction or expansion of two rings each by one atom;
- by contraction of one ring by one atom and expansion of one ring by one atom;
- by substitution of one or two carbon atoms of the cyclopenta[a]hydrophenanthrene skeleton,

which are not shared by rings, by hetero atoms, in combination with the above defined contraction or expansion or not, or;

- by condensation with carbocyclic or heterocyclic rings in combination with one or more of the foregoing alterations or not.

Guidance heading: **Normal steroids, i.e. cyclopenta(a)hydrophenanthrenes, containing carbon, hydrogen, halogen or oxygen**

C07J 1/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen, not substituted in position 17 beta by a carbon atom, e.g. estrane, androstane**

C07J 1/0003 . { Androstane derivatives }
C07J 1/0007 .. { not substituted in position 17 }
C07J 1/0011 .. { substituted in position 17 by a keto group }
C07J 1/0014 .. { substituted in position 17 alfa, not substituted in position 17 beta }
C07J 1/0018 .. { substituted in position 17 beta, not substituted in position 17 alfa }
C07J 1/0022 ... { the substituent being an OH group free esterified or etherified }
C07J 1/0025 .... { Esters }
C07J 1/0029 .... { Ethers }
C07J 1/0033 .. { substituted in position 17 alfa and 17 beta }
C07J 1/0037 ... { the substituent in position 17 alfa being a saturated hydrocarbon group }
C07J 1/004 ... { the substituent in position 17 alfa being an unsaturated hydrocarbon group }
C07J 1/0044 .... { Alkenyl derivatives }
C07J 1/0048 .... { Alkynyl derivatives }

C07J 1/0051 . { Estrane derivatives }
C07J 1/0055 .. { not substituted in position 17 }
C07J 1/0059 .. { substituted in position 17 by a keto group }
C07J 1/0062 .. { substituted in position 17 alfa not substituted in position 17 beta }
C07J 1/0066 .. { substituted in position 17 beta not substituted in position 17 alfa }

C07J 1/007 . . . { the substituent being an OH group free esterified or etherified }
C07J 1/0074 . . . . { Esters }
C07J 1/0077 . . . . { Ethers }
C07J 1/0081 . . { Substituted in position 17 alfa and 17 beta }
C07J 1/0085 . . . { the substituent in position 17 alfa being a saturated hydrocarbon group }
C07J 1/0088 . . . { the substituent in position 17 alfa being an unsaturated hydrocarbon group }
C07J 1/0092 . . . . { Alkenyl derivatives }
C07J 1/0096 . . . . { Alkynyl derivatives }

C07J 3/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen, substituted in position 17 beta by one carbon atom**

C07J 3/005 . { the carbon atom being part of a carboxylic function }

C07J 5/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen, substituted in position 17 beta by a chain of two carbon atoms, e.g. pregnane and substituted in position 21 by only one singly bound oxygen atom,** { i.e. only one oxygen bound to position 21 by a single bond }

C07J 5/0007 . { not substituted in position 17 alfa }
C07J 5/0015 . . { not substituted in position 16 }
C07J 5/0023 . . { substituted in position 16 }
C07J 5/003 . . . { by a saturated or unsaturated hydrocarbon group including 16-alkylidene substitutes }
C07J 5/0038 . . . . { by an alkyl group }

C07J 5/0046 . { substituted in position 17 alfa }
C07J 5/0053 . . { not substituted in position 16 }
C07J 5/0061 . . { substituted in position 16 }
C07J 5/0069 . . . { by a saturated or unsaturated hydrocarbon group }
C07J 5/0076 . . . . { by an alkyl group }
C07J 5/0084 . . . . { by an alkylene group }
C07J 5/0092 . . . { by an OH group free esterified or etherified }

C07J 7/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen substituted in position 17 beta by a chain of two carbon atoms** (C07J 5/00 takes precedence)

C07J 7/0005 . { not substituted in position 21 }
C07J 7/001 . . { substituted in position 20 by a keto group }
C07J 7/0015 . . . { not substituted in position 17 alfa }
C07J 7/002 . . . . { not substituted in position 16 }
C07J 7/0025 . . . . { substituted in position 16 }
C07J 7/003 . . . . . { by a saturated or unsaturated hydrocarbon group }
C07J 7/0035 . . . . . { by a hydroxy group free esterified or etherified }
C07J 7/004 . . . { substituted in position 17 alfa }

C07J 7/0045 .... { not substituted in position 16 }
C07J 7/005 .... { substituted in position 16 }
C07J 7/0055 ..... { by a saturated or unsaturated hydrocarbon group }
C07J 7/006 ..... { by a hydroxy group free esterified or etherified }
C07J 7/0065 .. { substituted in position 20 by an OH group free esterified or etherified }
C07J 7/007 ... { not substituted in position 17 alfa }
C07J 7/0075 ... { substituted in position 17 alfa }

C07J 7/008 . { substituted in position 21 }
C07J 7/0085 .. { by an halogen atom }
C07J 7/009 .. { by only one oxygen atom doubly bound }
C07J 7/0095 .. { carbon in position 21 is part of carboxylic group }

C07J 9/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen substituted in position 17 beta by a chain of more than two carbon atoms, e.g. cholane, cholestane, coprostane**

C07J 9/005 . { containing a carboxylic function directly attached or attached by a chain containing only carbon atoms to the cyclopenta[a]hydrophenanthrene skeleton }

C07J 11/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen, not substituted in position 3**

C07J 13/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen having a carbon-to-carbon double bond from or to position 17** { (for carbonyl groups C07J 1/00) }

C07J 13/002 . { with double bond in position 13 (17) }

C07J 13/005 . { with double bond in position 16 (17) }

C07J 13/007 . { with double bond in position 17 (20) }

C07J 15/00 **Stereochemically pure steroids containing carbon, hydrogen, halogen or oxygen having a partially or totally inverted skeleton, e.g. retrosteroids, L-isomers**

C07J 15/005 . { Retrosteroids (9 beta 10 alfa) }

C07J 17/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen, having an oxygen-containing hetero ring not condensed with the cyclopenta(a)hydrophenanthrene skeleton** (cardanolide, bufanolide C07J 19/00)

C07J 17/005 . { Glycosides }

C07J 19/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen, substituted in position 17 by a lactone ring**

C07J 19/005 . { Glycosides }

C07J 21/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen having an oxygen-containing hetero ring spiro-condensed with the cyclopenta(a)hydrophenanthrene skeleton**

C07J 21/001 . { Lactones }
C07J 21/003 . . { at position 17 }

C07J 21/005 . { Ketals }
C07J 21/006 . . { at position 3 }
C07J 21/008 . . { at position 17 }

Guidance heading: **Normal steroids, i.e. cyclopenta(a)hydrophenanthrenes, containing sulfur**

C07J 31/00 **Normal steroids containing one or more sulfur atoms not belonging to a hetero ring**

C07J 31/003 . { the S atom directly linked to a ring carbon atom of the cyclopenta(a)hydrophenanthrene skeleton }

C07J 31/006 . { not covered by C07J 31/003 }

C07J 33/00 **Normal steroids having a sulfur-containing hetero ring spiro-condensed or not condensed with the cyclopenta(a)hydrophenanthrene skeleton**

C07J 33/002 . { not condensed }

C07J 33/005 . { spiro-condensed }
C07J 33/007 . . { Cyclic thioketals }

Guidance heading: **Normal steroids, i.e. cyclopenta(a)hydrophenanthrenes, containing nitrogen**

C07J 41/00 **Normal steroids containing one or more nitrogen atoms not belonging to a hetero ring**

C07J 41/0005 . { the nitrogen atom being directly linked to the cyclopenta(a)hydro phenanthrene skeleton }
C07J 41/0011 . . { Unsubstituted amino radicals }
C07J 41/0016 . . { Oximes }
C07J 41/0022 . . { Isocyanates; Isothiocyanates }
C07J 41/0027 . . { Azides }

C07J 41/0033 . { not covered by C07J 41/0005 }

NOTE

In groups C07J 41/0038 to C07J 41/0094 all references to substituents in postion 17-beta of the steroid skeleton include substituents at the 17-position when there is a double bond to or from position 17, and all references to an amide group include all nitrogen substituted carbonyl groups

C07J 41/0038 . . { with an androstane skeleton, including 18- or 19-substituted derivatives, 18-nor derivatives and also derivatives where position 17-beta is substituted by a carbon atom not directly bonded to a further carbon atom and not being part of an amide group }

C07J 41/0044 . . { with an estrane or gonane skeleton, including 18-substituted derivatives and derivatives where position 17-beta is substituted by a carbon atom not directly bonded to another carbon atom and not being part of an amide group }

C07J 41/005 . . { the 17-beta position being substituted by an uninterrupted chain of only two carbon atoms, e.g. pregnane derivatives }

C07J 41/0055 . . { the 17-beta position being substituted by an uninterrupted chain of at least three carbon atoms which may or may not be branched, e.g. cholane or cholestane derivatives, optionally cyclised, e.g. 17-beta-phenyl or 17-beta-furyl derivatives }

C07J 41/0061 . . . { one of the carbon atoms being part of an amide group }

C07J 41/0066 . . { the 17-beta position being substituted by a carbon atom forming part of an amide group }

C07J 41/0072 . . { the A ring of the steroid being aromatic }

C07J 41/0077 . . { substituted in position 11-beta by a carbon atom, further substituted by a group comprising at least one further carbon atom }

C07J 41/0083 . . . { substituted in position 11-beta by an optionally substituted phenyl group not further condensed with other rings }

C07J 41/0088 . . { containing unsubstituted amino radicals }

C07J 41/0094 . . { containing nitrile radicals, including thiocyanide radicals }

C07J 43/00 **Normal steroids having a nitrogen-containing hetero ring spiro-condensed or not condensed with the cyclopenta(a)hydrophenanthrene skeleton**

C07J 43/003 . { not condensed }

C07J 43/006 . { spiro-condensed }

C07J 51/00 **Normal steroids with unmodified cyclopenta(a)hydrophenanthrene skeleton not provided for in groups C07J 1/00 to C07J 43/00**

C07J 53/00 **Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by condensation with a carbocyclic rings or by formation of an additional ring by means of a direct link between two ring carbon atoms,** { including carboxyclic rings fused to the cyclopenta(a)hydrophenanthrene skeleton are included in this class }

C07J 53/001 . { spiro-linked }

C07J 53/002 . { Carbocyclic rings fused }

C07J 53/004 . . { 3 membered carbocyclic rings }
C07J 53/005 . . . { in position 12 }
C07J 53/007 . . . { in position 6-7 }
C07J 53/008 . . . { in position 15/16 }

Guidance heading: **Nor- or homo steroids**

C07J 61/00 **Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by contraction of only one ring by one or two atoms**

C07J 63/00 **Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by expansion of only one ring by one or two atoms**

C07J 63/002 . { Expansion of ring A by one atom, e.g. A homo steroids }

C07J 63/004 . { Expansion of ring B by one atom, e.g. B homo steroids }

C07J 63/006 . { Expansion of ring C by one atom, e.g. C homo steroids }

C07J 63/008 . { Expansion of ring D by one atom, e.g. D homo steroids }

C07J 65/00 **Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by contraction of two rings, each by one atom**

C07J 67/00 **Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by expansion of two rings, each by one atom**

C07J 69/00 **Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by contraction of only one ring by one atom and expansion of only one ring by one atom**

C07J 71/00 **Steroids in which the cyclopenta(a)hydrophenanthrene skeleton is condensed with a heterocyclic ring** (spiro-condensed heterocyclic rings C07J 21/00 , C07J 33/00 , C07J 43/00)

C07J 71/0005 . { Oxygen-containing hetero ring }
C07J 71/001 . . { Oxiranes }
C07J 71/0015 . . . { at position 9(11) }
C07J 71/0021 . . . { at position 14(15) }
C07J 71/0026 . . { cyclic ketals }
C07J 71/0031 . . . { at positions 16, 17 }

C07J 71/0036 . { Nitrogen-containing hetero ring }
C07J 71/0042 . . { Nitrogen only }
C07J 71/0047 . . . { at position 2(3) }

C07J 71/0052 . . . { at position 16(17) }
C07J 71/0057 . . { Nitrogen and oxygen }
C07J 71/0063 . . . { at position 2(3) }
C07J 71/0068 . . . { at position 16(17) }

C07J 71/0073 . { Sulfur-containing hetero ring }
C07J 71/0078 . . { containing only sulfur }
C07J 71/0084 . . . { Episulfides }
C07J 71/0089 . . { containing sulfur and oxygen }
C07J 71/0094 . . { containing sulfur and nitrogen }

C07J 73/00 **Steroids in which the cyclopenta[a]hydrophenanthrene skeleton has been modified by substitution of one or two carbon atoms by hetero atoms**

C07J 73/001 . { by one hetero atom }
C07J 73/003 . . { by oxygen as hetero atom }
C07J 73/005 . . { by nitrogen as hetero atom }
C07J 73/006 . . { by sulfur as hetero atom }

C07J 73/008 . { by two hetero atoms }

C07J 75/00 **Processes for the preparation of steroids in general**

C07J 75/005 . { Preparation of steroids by cyclization of non-steroid compounds }